

Remarks

Claims 1-25 are pending in this application, after entry of this Amendment. By this Amendment, Claims 17, 18, 21, 22 and 23 are amended and new Claim 25 is added to more particularly point out and distinctly claim the invention. Applicants previously elected Claims 7-12, 17-21 and 23 in response to an Election of Species Requirement. Claim 25 is addressed to the same elected species and should also be considered by the Examiner.

Claim Objections

In the Office Action, the Examiner objected to Claims 17 and 18 on the basis that these claims “inferentially” claim a part of the human body and requested that such inferential claiming be corrected. Although Applicants disagree that Claims 17 and/or 18 claim a part of the human body in any way, Applicants have amended Claims 17 and 18 in the manner requested by the Examiner.

Claim Rejections

The Examiner rejected Claims 7, 17, 21 and 23 as anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 5,209,233 (“the ‘233 Patent”). The Examiner also rejected Claims 7, 8, 10, 11, 17, 18, 20, 21 and 23 as anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 6,148,229 (“the ‘229 Patent”). Finally, the Examiner rejected dependent Claims 9 and 19 as obvious under 35 U.S.C. § 103 over the ‘229 Patent in view of U.S. Patent No. 5,327,888 (“the ‘888 Patent”) and dependent Claim 12 as obvious under 35 U.S.C. § 103 over the ‘229 Patent in view of U.S. Patent No. 5,193,108 (“the ‘108 Patent”).

Rejected Claims 21 and 23, as amended, are addressed to an apparatus which measures the motion of an exterior portion of the body of a patient within a magnetic field by detecting a voltage induced in a wire positioned within the magnetic

field (i.e., the means for detecting motion in Claim 21 corresponds to either wire 16 in Fig. 2 or ECG leads 28 and 30 in Fig. 3 while Claim 23 specifies that the means for detecting motion is the ECG leads 28 and 30). As discussed in detail below, none of the cited prior art discloses a system or method which measures the motion of an exterior portion of a patient's body by detecting a voltage induced in a wire positioned within a magnetic field.

Furthermore, rejected Claims 7-12 and 17-20 are all directed to an apparatus or method which uses two ECG leads to make two separate and distinct physical measurements, including: (1) the patient's electrocardiogram; and (2) a measurement indicating the amount of motion of a portion of the patient's body. Likewise, new Claim 25 is directed to an apparatus which uses two ECG leads to measure the patient's electrocardiogram and the patient's respiration (i.e., motion in the form of expansion and contraction of the patient's chest). As discussed in detail below, none of the cited prior art discloses the use of two ECG leads to make two separate and distinct physical measurements.

The cited '233 Patent discloses a system, shown in Fig. 2, which detects an electrocardiogram signal using EKG leads 56 and separately generates a respiration signal using an air-filled elastomeric belt 90 connected to a pressure sensor 94 to measure changes in air pressure caused by a patient's breathing. However, the '233 Patent does not disclose or suggest that a signal representative of motion of the body (e.g., respiration) is generated using a wire, such as EKG leads 56, positioned within a magnetic field.

The cited '229 Patent is addressed to a system and method for compensating for motion artifacts during an MRI examination but, like the '233 Patent, does not disclose that the EKG leads 50 are used to measure motion of the body and to generate an electrocardiogram signal. Like the system disclosed in the '233 Patent, the system disclosed in the '229 Patent uses the EKG leads only to provide an electrocardiogram

signal. Furthermore, the system disclosed in the '229 Patent does not measure motion of an exterior portion of the body in any way.

The cited '888 Patent is addressed to a precordial electrode strip which includes a group of electrodes and which is used to position the group of ECG electrodes on the torso of a patient (instead of having to separately position each of the ECG electrodes within the group). The '888 Patent does not disclose that any of the ECG electrodes and the related leads are used to measure motion of an exterior portion of the body of the patient or for the dual purpose of generating an electrocardiogram signal and a signal representative of body motion.

The cited '108 Patent is addressed to a telecommunications test instrument, and does not include any disclosure or teaching related to a device which generates an electrocardiogram signal or a signal representative of body motion.

Since none of the cited prior art, alone or in any combination thereof, discloses a system or method which measures the motion of an exterior portion of the body of a patient using a wire positioned in a magnetic field (i.e., Claims 21 and 23) or which uses two ECG electrodes to measure both electrocardiogram and body motion (i.e., Claims 7-12, 17-20 and 25), none of the cited prior art, alone or in any combination thereof, anticipates or renders obvious any of Claims 7-12, 17-21, 23 and 25. As a result, Applicants respectfully request that the Examiner withdraw the rejections of Claims 7-12, 17-21 and 23.

Furthermore, since Applicants assert that linking Claim 21 is patentable, Applicants request consideration of non-elected Claims 1-6, 13-16, 22 and 24.

Conclusions

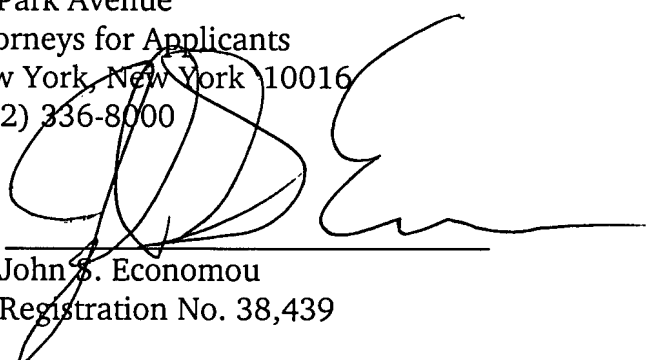
For all the reasons discussed above, Applicants respectfully submit that the present application is in condition for allowance, and request the allowance of Claims

7-12, 17-21, 23 and 25. An Amster, Rothstein and Ebenstein LLP check in the amount of US\$ 185 is enclosed for the small entity fees necessary in connection with the filing of this Amendment, including US\$60 for the one-month extension of time, US\$ 100 for one additional independent claim and US\$ 25 for one additional claim over the twenty claim limit. If any additional fees are required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 01-1785.

Respectfully submitted,

AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 Park Avenue
Attorneys for Applicants
New York, New York 10016
(212) 336-8000

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By: 
John S. Economou
Registration No. 38,439